STATE OF NEW MEXICO BEFORE THE ENVIRONMENTAL IMPROVEMENT BOARD

IN THE MATTER OF PROPOSED REVISIONS TO THE STATE IMPLEMENTATION PLAN FOR REGIONAL HAZE

No. EIB 11-01 (R)

NMED EXHIBIT 9b WRITTEN TESTIMONY OF RITA BATES PROPOSED § 309(g) SIP

Under 40 CFR 51.309(g)(2)(i), States that prepare regional haze state implementation plans under Section 309 are allowed to take credit for improved visibility in the Class I areas not on the Colorado Plateau as a result of the provisions of the Section 309 SIP. New Mexico's 309(g) SIP builds on New Mexico's Section 309 SIP for the additional Class I areas: Bosque del Apache National Wildlife Refuge, Carlsbad Caverns National Park, and the Bandelier, Gila, Pecos, Salt Creek, Wheeler Peak, and White Mountain wilderness areas.

All of the additional Class I areas in New Mexico are improving in visibility on the worst days, and all except one (Carlsbad Caverns National Park) are improving or not getting worse on the best days. Carlsbad Caverns National Park shows a slight degradation in visibility on the best days. Revisions in the projections included increased emissions from Mexico point sources. Without these increases, Carlsbad Caverns shows improved visibility on the best days. Since New Mexico does not have any control over the growth of emissions in Mexico, we are submitting these results with notes about why this degradation appears to be occurring. However, actual monitoring data from 2005 through 2009 shows that visibility on the best days is improving at Carlsbad Caverns (see Figure 6-1).

As discussed in detail in Chapter 11, the Department believes that reasonable progress in improving visibility is being made at all New Mexico Class I areas. Updates to this SIP are due in 2013 and 2018. At that time, the Department will evaluate current conditions at the Class I areas and determine whether additional strategies are warranted.

The Department made some revisions to the 309(g) SIP from the version submitted to the Board on March 31, 2011. Table 6-3 was revised to add the natural conditions for the 20 percent best days for all of New Mexico's Class I areas. Tables 6-4 and 9-1 were revised to correct typographical errors in the data for Bosque del Apache National Wildlife Refuge.

Table 6-5 was added. It shows baseline and natural conditions for all New Mexico Class I areas, and the difference in deciviews from the baseline to the natural conditions. Table 6-6 was added; it shows the number of years it would take to reach natural conditions for all of New Mexico's Class I areas at the rate of improvement between 2004 to 2018.

Section 10.6 was revised to add the requirement that PNM maintain and establish procedures to maintain control equipment required by the BART determination. Section 12.2.1 was revised to delete the reference to the Federal Implementation Plan proposed by U.S. EPA for BART for San Juan Generating Station.

The Department's proposed SIP meets the requirements of 40 CFR 51.309(g). Below, in *italics* is the language of Section 309(g) and applicable portions of Section 308 which cross-referenced in Section 309(g), followed by a response indicating how the proposed SIP satisfies each provision.

40 CFR 51.309(g)

(g) Additional Class I areas. Each Transport Region State implementing the provisions of this section as the basis for demonstrating reasonable progress for mandatory Class I Federal areas other than the 16 Class I areas must include the following provisions in its implementation plan. If a Transport Region State submits an implementation plan which is approved by EPA as meeting the requirements of this section, it will be deemed to comply with the requirements for reasonable progress for the period from approval of the plan to 2018.

(1) A demonstration of expected visibility conditions for the most impaired and least impaired days at the additional mandatory Class I Federal area(s) based on emissions projections from the long-term strategies in the implementation plan. This demonstration may be based on assessments conducted by the States and/or a regional planning body.

Response: Chapter 9, specifically Table 9-1, demonstrates expected visibility conditions at the additional mandatory Class I Federal areas.

(2) Provisions establishing reasonable progress goals and implementing any additional measures necessary to demonstrate reasonable progress for the additional mandatory

Federal Class I areas. These provisions must comply with the provisions of δ 1 2 51.308(d)(1) through (4). 3 4 (i) In developing long-term strategies pursuant to $\S 51.308(d)(3)$, the State may build upon 5 the strategies implemented under paragraph (d) of this section, and take full credit for 6 the visibility improvement achieved through these strategies. 7 8 **Response:** Chapter 1, paragraph 2, describes New Mexico's intent to meet 309(g) 9 requirements for the additional Class I Federal areas. See also the discussion of 40 CFR 10 51.308(d)(1) - (4) below. 11 12 (ii) The requirement under § 51.308(e) related to Best Available Retrofit Technology for 13 regional haze is deemed to be satisfied for pollutants addressed by the milestones and 14 backstop trading program if, in establishing the emission reductions milestones under 15 paragraph (d)(4) of this section, it is shown that greater reasonable progress will be 16 achieved for these additional Class I areas than would be achieved through the 17 application of source-specific BART emission limitations under $\S 51.308(e)(1)$. 18 19 Response: Chapter 10, section 10.2 addresses the SO₂ milestones and backstop trading 20 program. See also the discussion of 40 CFR 51.308(e) below. 21 22 (iii) The Transport Region State may consider whether any strategies necessary to 23 achieve the reasonable progress goals required by paragraph (g)(2) of this section are incompatible with the strategies implemented under paragraph (d) of this section to the 24 25 extent the State adequately demonstrates that the incompatibility is related to the costs of 26 the compliance, the time necessary for compliance, the energy and no air quality 27 environmental impacts of compliance, or the remaining useful life of any existing source 28 subject to such requirements. 29 30 Response: New Mexico did not find any incompatibilities with the 309(d) strategies for the 31 additional Class I areas. 32 33 40 CFR 51.308(d)(1) through (4) 34 35 (d) What are the core requirements for the implementation plan for regional haze? The State must address regional haze in each mandatory Class I Federal area located within 36 37 the State and in each mandatory Class I Federal area located outside the State which 38 may be affected by emissions from within the State. To meet the core requirements for 39 regional haze for these areas, the State must submit an implementation plan containing

the following plan elements and supporting documentation for all required analyses:

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Response: New Mexico's State Implementation Plan for 309(g) meets the requirements of 40 CFR 51.308 (d)(1) through (4) as outlined below.

(1) Reasonable progress goals. For each mandatory Class I Federal area located within the State, the State must establish goals (expressed in deciviews) that provide for reasonable progress towards achieving natural visibility conditions. The reasonable progress goals must provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the least impaired days over the same period.

Response: Chapter 11, specifically Section 11.3, includes reasonable progress goals for the additional Class I Federal areas.

(i) In establishing a reasonable progress goal for any mandatory Class I Federal area within the State, the State must:

(A) Consider the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected sources, and include a demonstration showing how these factors were taken into consideration in selecting the goal.

Response: The four factor analyses are included in Sections 11.2 and 11.3.

(B) Analyze and determine the rate of progress needed to attain natural visibility conditions by the year 2064. To calculate this rate of progress, the State must compare baseline visibility conditions to natural visibility conditions in the mandatory Federal Class I area and determine the uniform rate of visibility improvement (measured in deciviews) that would need to be maintained during each implementation period in order to attain natural visibility conditions by 2064. In establishing the reasonable progress goal, the State must consider the uniform rate of improvement in visibility and the emission reduction measures needed to achieve it for the period covered by the implementation plan.

Response: Section 11.3 and Table 11-8 demonstrate the uniform rate of progress compared to the reasonable progress goals for the additional Class I areas.

(ii) For the period of the implementation plan, if the State establishes a reasonable progress goal that provides for a slower rate of improvement in visibility than the rate that would be needed to attain natural conditions by 2064, the State must demonstrate, based on the factors in paragraph (d)(1)(i)(A) of this section, that the rate of progress for the implementation plan to attain natural conditions by 2064 is not reasonable; and that the progress goal adopted by the State is reasonable. The State must provide to the public for review as part of its implementation plan an assessment of the number of years it

1 would take to attain natural conditions if visibility improvement continues at the rate of 2 progress selected by the State as reasonable. 3 4 **Response:** Section 11.3 includes a discussion of the reasonableness of the progress goals for 5 each of the additional Class I areas. 6 7 (iii) In determining whether the State's goal for visibility improvement provides for 8 reasonable progress towards natural visibility conditions, the Administrator will evaluate 9 the demonstrations developed by the State pursuant to paragraphs (d)(1)(i) and (d)(1)(ii)10 of this section. 11 12 (iv) In developing each reasonable progress goal, the State must consult with those States 13 which may reasonably be anticipated to cause or contribute to visibility impairment in 14 the mandatory Class I Federal area. In any situation in which the State cannot agree with 15 another such State or group of States that a goal provides for reasonable progress, the 16 State must describe in its submittal the actions taken to resolve the disagreement. In 17 reviewing the State's implementation plan submittal, the Administrator will take this 18 information into account in determining whether the State's goal for visibility 19 improvement provides for reasonable progress towards natural visibility conditions. 20 21 **Response:** New Mexico consulted with other states through the WRAP and CENRAP 22 consultation processes. No disagreements were noted. 23 24 (v) The reasonable progress goals established by the State are not directly enforceable 25 but will be considered by the Administrator in evaluating the adequacy of the measures in 26 the implementation plan to achieve the progress goal adopted by the State. 27 (vi) The State may not adopt a reasonable progress goal that represents less visibility 28 29 improvement than is expected to result from implementation of other requirements of the 30 *CAA* during the applicable planning period. 31 32 **Response:** New Mexico's reasonable progress goals do not represent less improvement than 33 would be expected to result from implementation of other requirements of the Clean Air Act. 34 Emission reductions based on known requirements were included in the modeling analyses. For 35 example, contributions from mobile sources are shown to decrease over time due to increased stringency of federal mobile source requirements. 36 37 38 (2) Calculations of baseline and natural visibility conditions. For each mandatory Class I 39 Federal area located within the State, the State must determine the following visibility 40 conditions (expressed in deciviews): 41

(i) Baseline visibility conditions for the most impaired and least impaired days. The period for establishing baseline visibility conditions is 2000 to 2004. Baseline visibility conditions must be calculated, using available monitoring data, by establishing the average degree of visibility impairment for the most and least impaired days for each calendar year from 2000 to 2004. The baseline visibility conditions are the average of these annual values. For mandatory Class I Federal areas without onsite monitoring data for 2000–2004, the State must establish baseline values using the most representative available monitoring data for 2000–2004, in consultation with the Administrator or his or her designee;

Response: Tables 6-1 and 6-2 shows baseline visibility conditions for each of the additional Class I Federal areas for the 20% best and 20% worst days.

(ii) For an implementation plan that is submitted by 2003, the period for establishing baseline visibility conditions for the period of the first long-term strategy is the most recent 5-year period for which visibility monitoring data are available for the mandatory Class I Federal areas addressed by the plan. For mandatory Class I Federal areas without onsite monitoring data, the State must establish baseline values using the most representative available monitoring data, in consultation with the Administrator or his or her designee;

Response: Not applicable to this submittal.

(iii) Natural visibility conditions for the most impaired and least impaired days. Natural visibility conditions must be calculated by estimating the degree of visibility impairment existing under natural conditions for the most impaired and least impaired days, based on available monitoring information and appropriate data analysis techniques; and

Response: Table 6-3 shows natural conditions for the 20% worst and best days.

(iv)(A) For the first implementation plan addressing the requirements of paragraphs (d) and (e) of this section, the number of deciviews by which baseline conditions exceed natural visibility conditions for the most impaired and least impaired days; or

Response: Table 6-5 shows the difference in best and worst days for baseline and natural conditions in deciviews.

(B) For all future implementation plan revisions, the number of deciviews by which current conditions, as calculated under paragraph (f)(1) of this section, exceed natural visibility conditions for the most impaired and least impaired days.

Response: This requirement references future SIP revisions and is not applicable to this submittal.

(3) Long-term strategy for regional haze. Each State listed in § 51.300(b)(3) must submit a long-term strategy that addresses regional haze visibility impairment for each mandatory Class I Federal area within the State and for each mandatory Class I Federal area located outside the State which may be affected by emissions from the State. The long-term strategy must include enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals established by States having mandatory Class I Federal areas. In establishing its long-term strategy for regional haze, the State must meet the following requirements:

Response: Chapter 12 includes the Long Term Strategy.

(i) Where the State has emissions that are reasonably anticipated to contribute to visibility impairment in any mandatory Class I Federal area located in another State or States, the State must consult with the other State(s) in order to develop coordinated emission management strategies. The State must consult with any other State having emissions that are reasonably anticipated to contribute to visibility impairment in any mandatory Class I Federal area within the State.

Response: New Mexico has consulted with other states through the RPO process (WRAP and CENRAP). Section 2.2 addresses state consultation within the WRAP. Section 12.5 addresses contributions from CENRAP and the Eastern U.S. and identifies federal programs that will minimize those contributions.

(ii) Where other States cause or contribute to impairment in a mandatory Class I Federal area, the State must demonstrate that it has included in its implementation plan all measures necessary to obtain its share of the emission reductions needed to meet the progress goal for the area. If the State has participated in a regional planning process, the State must ensure it has included all measures needed to achieve its apportionment of emission reduction obligations agreed upon through that process.

Response: Chapter 12 identifies other states affected by New Mexico Emissions in Section 12.2. Section 12.3 includes a discussion of other states, countries and worldwide regions that affect visibility in New Mexico.

(iii) The State must document the technical basis, including modeling, monitoring and emissions information, on which the State is relying to determine its apportionment of emission reduction obligations necessary for achieving reasonable progress in each mandatory Class I Federal area it affects. The State may meet this requirement by relying on technical analyses developed by the regional planning organization and approved by all State participants. The State must identify the baseline emissions inventory on which its strategies are based. The baseline emissions inventory year is presumed to be the most recent year of the consolidate periodic emissions inventory.

1 2	Response: Chapters 8 and 9 document the technical basis of the work prepared by WRAP in
3	emissions inventory and modeling. New Mexico relied on these analyses in determining its
4	apportionment of emission reduction obligations necessary for achieving reasonable progress in
5	each mandatory Class I Federal area it affects.
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7	(iv) The State must identify all anthropogenic sources of visibility impairment considered
8	by the State in developing its long-term strategy. The State should consider major and
9	minor stationary sources, mobile sources, and area sources.
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11	Response: Chapter 8 identifies sources of visibility impairment.
12	responser standards sources of visionity impairments
13	(v) The State must consider, at a minimum, the following factors in developing its long-
14	term strategy:
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16	(A) Emission reductions due to ongoing air pollution control programs, including
17	measures to address reasonably attributable visibility impairment;
18	mediation of the distance of the control of the con
19	Response: Chapter 12 identifies these measures.
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21	(B) Measures to mitigate the impacts of construction activities;
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23	Response: Section 12.7.11 identifies measures to mitigate the impacts of construction activities
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25	(C) Emissions limitations and schedules for compliance to achieve the reasonable
26	progress goal;
27	p. 58. 555 85 sm;
28	Response: Section 12.7.12 includes this information.
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30	(D) Source retirement and replacement schedules;
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32	Response: Section 12.7.13 includes this information.
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34	(E) Smoke management techniques for agricultural and forestry management purposes
35	including plans as currently exist within the State for these purposes;
36	with the state of
37	Response: A reference to New Mexico's Smoke Management Program is included in Section
38	12.7.14 and is also included in New Mexico's 2003 SIP submittal under 40 CFR 51.309.
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40	(F) Enforceability of emissions limitations and control measures; and
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42	Response: Section 12.7.15 discusses enforceability of emissions limitations and control
43	measures.

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2	(G) The anticipated net effect on visibility due to projected changes in point, area, and
3 4	mobile source emissions over the period addressed by the long-term strategy.
5	Response: Section 12.9 addresses the projection of the net effect on visibility from emission
6	reductions by poin6, area and mobile sources throughout the WRAP region through 2018.
7	(1) Monitoring at a to a sure of all an invalous artesting along up an invalous acts. The State mont
8 9	(4) Monitoring strategy and other implementation plan requirements. The State must submit with the implementation plan a monitoring strategy for measuring, characterizing
10	and reporting of regional haze visibility impairment that is representative of all
11	mandatory Class I Federal areas within the State. This monitoring strategy must be
12	coordinated with the monitoring strategy required in § 51.305 for reasonably attributable
13	visibility impairment. Compliance with this requirement may be met through
14	participation in the Interagency Monitoring of Protected Visual Environments network.
15	The implementation plan must also provide for the following:
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17	Response: Section 4.3 addresses New Mexico's regional haze monitoring commitments. The
18	IMPROVE monitoring system is operated by the federal land management agencies for the New
19	Mexico Class I Federal areas.
20 21 22 23 24	(i) The establishment of any additional monitoring sites or equipment needed to assess whether reasonable progress goals to address regional haze for all mandatory Class I Federal areas within the State are being achieved.
25	Response: The Department is not proposing any additional visibility monitoring sites or
26	equipment.
27 28 29 30 31	(ii) Procedures by which monitoring data and other information are used in determining the contribution of emissions from within the State to regional haze visibility impairment at mandatory Class I Federal areas both within and outside the State.
32 33	Response: Section 4.3 discusses the use of the IMPROVE monitoring data for the SIP.
34 35 36 37	(iii) For a State with no mandatory Class I Federal areas, procedures by which monitoring data and other information are used in determining the contribution of emissions from within the State to regional haze visibility impairment at mandatory Class I Federal areas in other States.
38 39 40	Response: Not applicable to New Mexico.

1 2 3 4 5	(iv) The implementation plan must provide for the reporting of all visibility monitoring data to the Administrator at least annually for each mandatory Class I Federal area in the State. To the extent possible, the State should report visibility monitoring data electronically.
6	Response: Federal Land Managers operate and maintain the visibility monitors at New
7	Mexico's Class I areas. Data is reported through the IMPROVE network.
8 9 10 11 12 13 14 15	(v) A statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any mandatory Class I Federal area. The inventory must include emissions for a baseline year, emissions for the most recent year for which data are available, and estimates of future projected emissions. The State must also include a commitment to update the inventory periodically. Response: Section 8.4 describes New Mexico's emissions inventory and commitment to update
16	the inventory.
17 18 19 20 21	(vi) Other elements, including reporting, recordkeeping, and other measures, necessary to assess and report on visibility.Response: Chapter 13 describes other elements to ensure enforceability and adequacy of the
22	SIP.
23 24 25 26 27 28	40 CFR 51.308(e) (e) Best Available Retrofit Technology (BART) requirements for regional haze visibility impairment. The State must submit an implementation plan containing emission limitations representing BART and schedules for compliance with BART for each BART-
29 30 31 32 33	eligible source that may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I Federal area, unless the State demonstrates that an emissions trading program or other alternative will achieve greater reasonable progress toward natural visibility conditions.
34	Response: BART requirements are addressed in Chapter 10.
35 36 37 38 39	(1) To address the requirements for BART, the State must submit an implementation plan containing the following plan elements and include documentation for all required analyses:
40	(i) A list of all BART-eligible sources within the State.
41 42	Response: Appendix C includes a list of all potentially BART-eligible sources within New
43	Mexico.

(ii) A determination of BART for each BART-eligible source in the State that emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I Federal area. All such sources are subject to BART.

Response: Appendix C identifies sources that may reasonable be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I Federal area. Only one source in New Mexico, San Juan Generating Station, was found to be subject to BART.

(A) The determination of BART must be based on an analysis of the best system of continuous emission control technology available and associated emission reductions achievable for each BART-eligible source that is subject to BART within the State. In this analysis, the State must take into consideration the technology available, the costs of compliance, the energy and nonair quality environmental impacts of compliance, any pollution control equipment in use at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.

Response: Chapter 10 includes this determination for San Juan Generating Station for NOx and PM. SO₂ is included in the backstop trading program referenced in Chapter 10.

(B) The determination of BART for fossil-fuel fired power plants having a total generating capacity greater than 750 megawatts must be made pursuant to the guidelines in appendix Y of this part (Guidelines for BART Determinations Under the Regional Haze Rule).

Response: New Mexico used the guidelines in making the BART determination in Chapter 10.

(C) Exception. A State is not required to make a determination of BART for SO_2 or for NOX if a BART-eligible source has the potential to emit less than 40 tons per year of such pollutant(s), or for PM10 if a BART-eligible source has the potential to emit less than 15 tons per year of such pollutant.

Response: No sources of this type were identified in New Mexico.

(iii) If the State determines in establishing BART that technological or economic limitations on the applicability of measurement methodology to a particular source would make the imposition of an emission standard infeasible, it may instead prescribe a design, equipment, work practice, or other operational standard, or combination thereof, to require the application of BART. Such standard, to the degree possible, is to set forth the emission reduction to be achieved by implementation of such design, equipment, work practice or operation, and must provide for compliance by means which achieve equivalent results.

Response: Not required for New Mexico.

(iv) A requirement that each source subject to BART be required to install and operate BART as expeditiously as practicable, but in no event later than 5 years after approval of the implementation plan revision.

Response: Section 10.6 includes these requirements.

(v) A requirement that each source subject to BART maintain the control equipment required by this subpart and establish procedures to ensure such equipment is properly operated and maintained.

Response: Section 10.6 includes a requirement for proper operation and maintenance of BART controls.

(2) A State may opt to implement or require participation in an emissions trading program or other alternative measure rather than to require sources subject to BART to install, operate, and maintain BART. Such an emissions trading program or other alternative measure must achieve greater reasonable progress than would be achieved through the installation and operation of BART. For all such emission trading programs or other alternative measures, the State must submit an implementation plan containing the following plan elements and include documentation for all required analyses:

* * *

Response: New Mexico is participating in a market trading program under 40 CFR 51.309(d)(4) for sulfur dioxide only. The demonstration that the SO2 trading program satisfies 40 CFR 51.308(e)(2) is contained in Section M of the proposed revisions to New Mexico's 2003 Section 309 SIP. No additional alternative-to-BART programs are proposed under Section 309(g).

40 CFR 51.308(f)

(f) Requirements for comprehensive periodic revisions of implementation plans for regional haze. Each State identified in § 51.300(b)(3) must revise and submit its regional haze implementation plan revision to EPA by July 31, 2018 and every ten years thereafter. In each plan revision, the State must evaluate and reassess all of the elements required in paragraph (d) of this section, taking into account improvements in monitoring data collection and analysis techniques, control technologies, and other relevant factors. In evaluating and reassessing these elements, the State must address the following:

Response: Section 13.2 addresses New Mexico's commitment to future SIP revisions that will meet all of these requirements.

 (1) Current visibility conditions for the most impaired and least impaired days, and actual progress made towards natural conditions during the previous implementation period. The period for calculating current visibility conditions is the most recent five year period preceding the required date of the implementation plan submittal for which data are available. Current visibility conditions must be calculated based on the annual average level of visibility impairment for the most and least impaired days for each of these five years. Current visibility conditions are the average of these annual values.

Response: This requirement refers to future SIP revisions.

(2) The effectiveness of the long-term strategy for achieving reasonable progress goals over the prior implementation period(s); and

Response: This requirement refers to future SIP revisions.

(3) Affirmation of, or revision to, the reasonable progress goal in accordance with the procedures set forth in paragraph (d)(1) of this section. If the State established a reasonable progress goal for the prior period which provided a slower rate of progress than that needed to attain natural conditions by the year 2064, the State must evaluate and determine the reasonableness, based on the factors in paragraph (d)(1)(i)(A) of this section, of additional measures that could be adopted to achieve the degree of visibility improvement projected by the analysis contained in the first implementation plan described in paragraph (d)(1)(i)(B) of this section.

Response: This requirement refers to future SIP revisions.